

REMARKS

Claim 10 has been amended. Claims 5-8 and 10 remain pending. The changes made to claim 10 by the current amendment are attached hereto in a page entitled "Version with Markings to Show Changes Made." Reconsideration and reexamination of the application, as amended, are requested.

The Examiner rejected claims 5-8 and 10 under 35 U.S.C. § 103(a) as being obvious on consideration of Seymour (U.S. Patent 3,846,104) in view of Seymour (U.S. Patent 4,229,200).

Seymour '104 discloses an invention for handling glass sheets for shaping and cooling. The structure disclosed includes a lower mold for supporting a glass sheet such that the glass sheet is sandwiched between the lower mold and an upper mold. The glass sheet is then supported by a suction created in the upper mold. The lower mold is retracted. A tempering ring is moved into place such that the glass sheet is supported on it and conveyed to a cooling station.

Seymour '200 discloses a vacuum platen 40 which may be lowered to the vicinity of the glass sheet so that when sufficient vacuum is applied, the glass sheet is drawn into contact and lifted. As shown in Figures 21 and 22, the platen 40 may be flanked by a pair of curved vacuum mold sections 130. A lifting frame presses the glass sheet towards sections 130 after the glass sheet attaches to the platen 40. The vacuum continues to be drawn as the lifting frame is lowered. Then, the vacuum is quickly taken away so that the glass sheet can drop into a shaping mold.

Claim 10 requires a suction mold which includes first and second suction chambers. Claim 10 further requires:

"lowering said suction mold toward said ring mold to an extent that the shaping surface areas come close to the sheet of glass on said ring mold;

then shaping the sheet of glass accurately with said suction mold by
developing a first vacuum in said first suction chamber . . . and then developing a second vacuum in said second suction chamber . . . and

then without further shaping, directly releasing the sheet of glass . . . onto a quenching ring . . ."

Seymour '104 requires at column 11, lines 27-40:

"The present invention, in the handling of glass sheets for shaping and cooling, is also characterized by first supporting a glass sheet to be treated on a lower mold having a shaping surface conforming to the shape desired for the shaped glass sheet, then sandwiching the sheet in pressurized engagement between said lower mold and an upper mold having a complementary shaping surface, then supporting the glass sheet against the shaping surface of the upper mold while the lower mold is retracted and then supporting the glass sheet substantially entirely around its periphery and adjacent its marginal edge on a tempering ring . . ."

Seymour '104 accomplishes shaping by "sandwiching" the sheet in pressurized engagement between a lower mold and an upper mold having a complementary shaping surface. The Examiner suggests that it would have been obvious to a person of ordinary skill in the art at the time the present invention was made to replace the upper vacuum mold of Seymour '104 with the platen and blocks of Seymour '200. If that were done, it does not change the need for a lower mold to sandwich the sheet in order to shape it as the language above states.

The method of claim 10, on the other hand, requires that the suction mold is lowered toward the ring mold so that the shaping surface areas come close to the sheet of glass on the ring mold. The sheet of glass is then shaped "accurately" with the suction mold by developing a first vacuum in the first suction chamber and a second vacuum in the second suction chamber, etc. The method of claim 10 specifically requires a suction mold which is lowered to the sheet of glass and which accurately shapes the sheet of glass. There is no lower mold or sandwiching of upper and lower molds as disclosed by Seymour '104 or as disclosed by Seymour '104 and '200. The Seymour patents require shaping by a lower mold ('104) or a shaping mold 128 into which a glass sheet is dropped ('200). The Seymour patents do not disclose an "accurate" shaping by a suction mold which is lowered to the sheet of glass and which then draws first and second vacuums and "without further shaping" is directly released onto a quenching ring.

The Seymour patents are directed to a different concept than the present invention. The Seymour patents do not disclose the method of claim 10. Claim 10 does not follow from and is not obvious over the Seymour patents. Claim 10 and the claims which depend from it are patentable.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration and reexamination are requested. Allowance of claims 5-8 and 10 at an early date is solicited.

Respectfully submitted,

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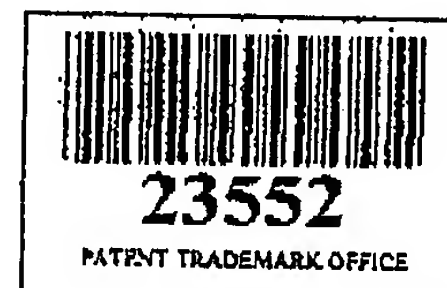
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VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the Claims**

Claim 10 has been amended to read as follows:

10. (Twice Amended) A method of shaping a sheet of glass heated nearly to a softening point thereof with a suction mold including first and second suction chambers having respective first and second shaping surface areas, comprising the steps of:

placing the sheet of glass on a ring mold;

lowering said suction mold toward said ring mold to an extent that the shaping surface areas come close to the sheet of glass on said ring mold;

then shaping the sheet of glass accurately with said suction mold by developing a first vacuum in said first suction chamber at a first time to attract a first area of the sheet of glass against the first shaping surface area to shape the first area of the sheet of glass and then developing a second vacuum in said second suction chamber at a second time to attract a second area of the sheet of glass against the second shaping surface area to shape the second area of the sheet [if] of glass complementary to the first area, said first time being before said second time so that the sheet of glass is successively brought against the first and second shaping surface areas;
and

then without further shaping, directly releasing the sheet of glass from the first and second shaping surface areas of the suction mold onto a quenching ring and moving the sheet of glass on the quenching ring to quenching.